

REMARKS

Claims 35-67 and 69 are pending in the present application. Claims 35, 53 and 58-63 have been amended in this response. Claim 68 has been canceled, without prejudice. New claim 69 has been added in this response. Support for the amendments may be found, for example, in paragraphs [0028] and [0034]. No new matter has been introduced as a result of the amendments. A Petition for One-Month Extension of Time and a Request for Continued Examination are submitted herewith. Entry of the amendments and favorable reconsideration is respectfully requested.

Claim 53 was objected to for a minor informality. IN light of the amendment to claim 53, Applicants submit the informality has been addressed. Withdrawal of the objection is earnestly requested.

Claims 35-68 were rejected under 35 U.S.C. §112, second paragraph, for allegedly failing to point out and distinctly claim the subject matter which Applicants regard as the invention. In light of the present amendments to claims 35, 51 and 58-63, Applicants submit the purportedly unclear terminology has been addressed. Withdrawal of the rejection is earnestly requested.

Claims 35-43, 46-47, 50, 52-68 were rejected under 35 U.S.C. §102(e) as being anticipated by *Phillips et al.* (US Patent 6,421,016).

Claims 35, 37, 44-45, 49 and 51 were also rejected under 35 U.S.C. §102(b) as being anticipated by *Perrotta et al.* (US Patent 6,246,374).

Claim 48 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Phillips et al.* (US Patent 6,421,016). In light of the present amendments, Applicants traverse the above rejections.

Specifically, the cited art, alone or in combination, fails to teach or suggest “at least one first current-conducting corrective element coupled to the circuit board, wherein the first corrective element comprises current conducting tracks for increasing current capacity in the corrective element relative to a total current level capacity directly from the circuit board, and wherein the first corrective element is embodied such that at least one of an amplitude level and a phase angle of electrical currents on the antenna, the circuit board, and the corrective element, are adjusted in relation to each other to distribute the electrical currents in a substantially even

manner, and to reduce a maximum SAR distribution which results overall as a result of electrical currents” as recited in claim 35, an similarly recited in new claim 69.

In contrast, Phillips deals with reducing SAR effects, but relies on a materially different configuration, which functions under a different operating principle. In Phillips, a resonator (104) and a ground plane (108) are arranged on a circuit board that is coupled to an antenna (102), where only the ground plane is connected to the surface of the circuit board (FIG. 2). This arrangement is specifically disclosed to divert counterpoise currents from an unbalanced antenna (col. 3, lines 44-53). The resonator (104) is structured to have a low impedance at specific frequencies, so that RF currents are drawn *from the antenna* to the resonator (col. 3, lines 54-67). The ground plane (108) and circuit board are arranged as an antiresonant structure to divert RF currents from the antenna *away from the circuit board and towards the resonator* (104) (col. 4, lines 9-15, 44-53; col. 5, lines 14-22, 43-47; see claim 6). In other words, the resonator “pulls” counterpoise current from the unbalanced antenna, while the ground plane “pushes” additional current from the antenna in the direction of the resonator, in order to radiate power and to keep counterpoise current away from the circuit board and subsequently reduce SAR effects (col. 5, lines 42-56).

Thus, Phillips fails to teach or suggest that the first corrective element (resonator 104) comprises current conducting tracks for increasing current capacity in the corrective element relative to a total current level capacity directly from the circuit board, where the corrective element is used to adjust an amplitude level/phase angle of electrical currents on (1) the antenna, (2) the circuit board, and (3) the corrective element, such that the electrical current will be evenly distributed. Presuming that the resonator (104) of Phillips increases current capacity, it does so relative to *the antenna*, and not to the circuit board. Additionally, since counterpoise current is pushed/pulled directly to the resonator, it cannot be said that electrical current is distributed in a “substantially even manner” among the antenna/circuit board/resonator. For at least these reasons, Applicants submits the rejection is traversed and should be withdrawn.

Regarding Perrotta, Applicants maintain that the document does not address SAR effects, but only addresses antenna gain and a reduction of “hand proximity effects” when a user’s hand is holding the housing (col. 3, lines 11-14). The Office Action states that “it is well known that the parasitic element of Perotta will not only increase the gain of the antenna but also reduce the

amount of radiation absorbed by the user's hand, which is SAR reduction" (Office Action, page 12). Applicants respectfully submit that the Office Action misinterprets the meaning of "hand proximity effect" and "SAR effect" as understood by one skilled in the art. SAR refers to a Specific Absorption Rate value, typically rated in watts per kilogram/pound, that relates to a thermal impact that electromagnetic waves have on living tissue. In contrast, "hand proximity effect" refers to adverse loading/distortion that occurs in a device as a result of electricity emanating from living tissue (i.e., a hand). Applicants respectfully submit that "hand proximity effects" and "SAR effects" are not equivalent. This position is supported by Perotta, where the parasitic element 18 provides "that the radiated energy undergoes a change which allows an *increase in the overall electric field magnitude* in a direction opposite to the user. This very phenomenon improves the antenna overall efficiency" (col. 2, lines 48-50). Furthermore, Perrotta teaches that "[t]his direction is intentionally away from the user in order to avoid the *adverse loading effects the user presents to the signal*" (col. 3, lines 1-3). See also col. 3, lines 58-60: "[t]his improvement is realized by having multiple elements which combine to produce *better radiation and gain performance*."

It should be clear that "away from the user" refers to the hand that is grasping the device. Additionally, it should be apparent that, when a user is grasping a device during use, the direction "away" from the hand would necessarily mean that the increased radiation would be *directed to a user's head*. Thus, applicant maintains that there is no teaching, either explicitly or implicitly, that addresses SAR in Perrotta.

Additionally, Perrotta fails to teach or suggest the features described above. Under Perrotta, a parasitic element (18) operates as a passive radiator element to radiate along with the main antenna (16) to enhance the gain of the antenna system (see Abstract). Perrotta discloses that the parasitic element and antenna are not physically connected by a common feed point, but are magnetically coupled in parallel to allow the two elements to radiate in a complimentary fashion (col. 2, lines 15-20, 37-43; col. 3, lines 27-29, 38-39; see claim 5). Perrotta discloses that the parasitic radiator operates to divert current from speaker wires or other audio lines from entering the circuit board (col. 3, lines 3-8), in order to reduce proximity effects that may distort transmissions when a user's hand interferes with the antenna's radiating area (col. 3, lines 8-14).


Thus Perrotta also fails to teach or suggest a first corrective element (radiator 18) that comprises current conducting tracks for increasing current capacity in the corrective element relative to a total current level capacity directly from the circuit board, where the corrective element is used to adjust an amplitude level/phase angle of electrical currents on (1) the antenna, (2) the circuit board, and (3) the corrective element, such that the electrical current will be evenly distributed. Applicants cannot find anywhere in Perrotta where such a configuration is disclosed. For at least these reasons, Applicants submit the rejection is traversed and should be withdrawn.

In light of the present amendments, Applicants respectfully submit the rejections under 35 U.S.C. §102 have been overcome. Withdrawal of the rejections is earnestly requested. As Applicants have demonstrated the allowability of independent claims 35 and new claim 69, withdrawal of the remaining rejections including those under 35 U.S.C. §103 are also requested.

In light of the above, the Applicants respectfully submit that claims 35-67 and 69 are both novel and non-obvious over the art of record. Accordingly, the Applicants respectfully request that a timely Notice of Allowance be issued in this case. If any additional fees are due in connection with this application as a whole, the Commissioner is authorized to deduct said fees from Deposit Account No.: 02-1818. If such a deduction is made, please indicate the attorney docket number (0117393-012) on the account statement.

Respectfully submitted,

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